

Case 3518***Cornu* Born, 1778 (Mollusca, Gastropoda, Pulmonata, HELICIDAE):
request for a ruling on the availability of the generic name**

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Abstract. The purpose of this application, under Articles 78.2.3 and 80.2.1 of the Code, is to suggest a possible interpretation of Article 1.3.2 in relation to the availability of the generic name *Cornu* Born, 1778 for a genus of land snails (family HELICIDAE). There has been longstanding confusion regarding the correct generic combination for the well-known, common and widely introduced land snail originally described as *Helix aspersa* Müller, 1774, that is, whether it should be placed in *Cornu* Born, 1778, *Cantareus* Risso, 1826 or *Cryptomphalus* Charpentier, 1837. The confusion has arisen primarily because of differing interpretations of Article 1.3.2 in relation to the original proposal of the genus-group name *Cornu* Born, 1778 for the species *Cornu copiae* Born, 1778, which was based on a teratological specimen of *Helix aspersa* Müller, 1774. It is proposed that the wording of Article 1.3.2 be interpreted to confirm the availability of *Cornu* Born, 1778.

Keywords. Nomenclature; taxonomy; Mollusca; Gastropoda; Pulmonata; HELICIDAE; *Helix*; *Cantareus*; *Cornu*; *Cryptomphalus*; *Cornu copiae*; *Helix aperta*; *Helix aspersa*; brown garden snail; Europe; introduced species.

1. The well-known, common and widely introduced Western European land snail species (the brown garden snail, common garden snail or simply the garden snail) that has long been known as *Helix aspersa* Müller, 1774 (p. 59) (e.g. Pilsbry, 1894, p. 311; Kerney & Cameron, 1979, p. 205) is an ecologically important species, with established introductions in many regions of the world (Barker, 1999, p. 62; Cowie, 2001, p. 125; Roth & Sadeghian, 2003, p. 35; Herbert, 2010, p. 50; Stanistic et al., 2010, p. 520). It is a commercially important species in France and Belgium, and to a lesser extent in the rest of Europe and North Africa, in French known as the 'escargot petit-gris' (e.g. Bonnet et al., 1990; Jess & Marks, 1995; Dupont-Nivet et al., 2000; Herbert & Kilburn, 2004). There is therefore a considerable body of scientific and non-scientific literature on this species, yet there is much recent and continuing confusion and hence lack of stability regarding its correct generic placement. The name *Helix aspersa* Müller, 1774 is on the Official List of Specific Names in Zoology (Opinion 336, Opinions and Declarations, 10: 77–108, March 1955). While there is almost general agreement that it should not be retained in *Helix* Linnaeus, 1758, there is much disagreement about its correct placement. It has been placed by various modern authors in the genera *Cornu* Born, 1778 (e.g. Falkner et al., 2001, p. 65; Anderson, 2005, p. 627; Cowie et al., 2008, p. 270; Ligaszewski et al., 2009,

p. 173; Guiller & Madec, 2010, p. 1; Stanisić et al., 2010, p. 520), *Cryptomphalus* Charpentier, 1837 (e.g. Paniagua & Vázquez, 1976, p. 617; Robinson, 1999, p. 419; Bojat et al., 2001, p. 155; Kiss & Magnin, 2003, p. 53; Brieva et al., 2008, p. 15) and *Cantareus* Risso, 1826 (e.g. Barker, 1999, p. 62; Koene & Schulenburg, 2005, p. 2; Manganelli et al., 2005, p. 504; Wade et al., 2006, p. 598, 2007, p. 412; Ansart et al., 2007, p. 71). Some authors have accepted the availability and validity of these genus-group names but as subgenera of *Helix* Linnaeus, 1758. For example, Waldén (1976, p. 24) and Roth & Sadeghian (2003, p. 35) placed *H. aspersa* in *Helix* subgenus *Cornu*, while Zilch (1960, p. 722) and Giusti (1969, p. 86, 1977, p. 126) placed it in *Helix* subgenus *Cryptomphalus*, and Zilch (1960, p. 723), Giusti (1969, p. 88) and Roth & Sadeghian (2003, p. 35) placed the related *Helix aperta* Born, 1778 in *Helix* subgenus *Cantareus*. Whether or not any of these three genus-group names are synonyms of each other has also been the subject of much confusion. Some authors, either unable or unwilling to decide on the correct placement of *aspersa*, have left it in *Helix* (e.g. Cowie, 1997, p. 20; Rogers & Chase, 2002, p. 290; Herbert & Kilburn, 2004, p. 275; Cameron et al., 2006, pp. 19–20). While there has been discussion of this issue (e.g. Giusti et al., 1996, pp. 490–491; Barker, 1999, pp. 67–68; Gerber, 2000, p. 44; Roth & Sadeghian, 2003, p. 35; Anderson, 2005, p. 627; Herbert, 2010, p. 52) and the consensus seems to lean towards accepting the availability and validity of *Cornu* and the placement of *aspersa* in *Cornu*, no definitive statement has been formally published and different treatments continue to appear in publications. The purpose of this application is formally to resolve this nomenclatural confusion, which stems essentially from the different views on the availability of the genus-group name *Cornu* Born, 1778. These differing views reflect the difficulty of interpreting Article 1.3.2 of the Code.

2. The type species of *Helix* Linnaeus, 1758 (p. 768) is *Helix pomatia* Linnaeus, 1758 (p. 771), by subsequent designation of Montfort (1810, p. 231) (see Melville & Smith, 1987, p. 103). It has been appreciated long ago that this species and *Helix aspersa* Müller, 1774 are quite different, e.g. by Charpentier (1837, pp. 5–6) and Moquin-Tandon (1855, pp. 174, 179), who both placed them in different subgenera of *Helix*. And there is now general agreement that they are sufficiently different to indeed warrant placement in different genus-group taxa (e.g. Waldén, 1976, p. 24; Giusti et al., 1996, pp. 490, 497; Barker, 1999, p. 67; Robinson, 1999, pp. 419, 437; Falkner et al., 2001, p. 65; Anderson, 2005, p. 613; Koene & Schulenburg, 2005, p. 5; Manganelli et al., 2005, pp. 504–505; Ligaszewski et al., 2009, p. 173; Herbert, 2010, p. 52).

3. The type species of *Cornu* Born, 1778 (p. 371) is *Cornu copiae* Born, 1778 (p. 371), by monotypy. *Cornu copiae* was re-described and illustrated by Born (1780, p. 362, pl. 13, figs. 10, 11), with an additional text illustration, in fact the same one that appeared, without being referred to in the text, on the last page of the 1778 publication. It is based on a scalariform (i.e. teratological) specimen of *aspersa* Müller, 1774, on which there has been no disagreement. Some authors have considered *copiae* and *Cornu* unavailable based on their interpretation of Article 1.3.2 of the Code, which states ‘Excluded from the provisions of the Code are names proposed . . . for teratological specimens as such’ (e.g. Giusti et al., 1996, p. 491; Barker, 1999, p. 68). Others have argued that this means ‘in distinction from normal specimens of the same species’ (Roth & Sadeghian, 2003, p. 60), and view Born’s

name as having been introduced for what he considered a valid and distinct species, rather than explicitly for a teratological specimen of an already valid species; in which case *copiae* and *Cornu* are available names (e.g. Gerber, 2000, p. 44). The words 'as such', and their explanation in the Glossary of the Code as meaning 'Being strictly what has been cited', are the source of the confusion. Shileyko (2006, p. 1817) treated *Cornu* as a nomen oblitum, with the subsequently published *Cryptomphalus* as the valid name. However, Shileyko's action was inappropriate under Article 23.9.1.1 of the Code, as *Cornu* had been used as a valid name after 1899 (e.g. citations above), and his action did not fully comply with Article 23.9.2. Born clearly intended *Cornu* as a genus name, as it appeared as a heading in the same format as his other genus headings. His use of *copiae* as the species name, perhaps intended to be witty in combination with the genus name, is probably a reflection of the 'cornu copiae' (two words) in its original meaning derived from Greek mythology, the 'horn of plenty' (*cornu*, horn; *copiae*, genitive of *copia*, plenty), a spiralled goat's horn filled with fruit and grain (*Encyclopaedia Britannica*, 2010), which the scalariform shell clearly resembles. Modern English usage is 'cornucopia' as a single word, generally meaning a great abundance of something, although, especially in North America, it also means a hollow, horn-shaped wicker basket filled with various kinds of festive fruit and other produce.

4. Gmelin (1791, p. 3745) listed Born's name as the species epithet (not a species-genus combination) '*Cornu copiae*' in the marine polychaete genus *Serpula* Linnaeus, 1758 (p. 1264), clearly incorrectly. Subsequently, *Cornu copiae* was ignored by most major nineteenth century authors (e.g. Férussac, 1821–1822; Charpentier, 1837; Anton, 1839, p. 33; Pfeiffer, 1853; Reeve, 1854; Moquin-Tandon, 1855; Locard, 1880; Tryon, 1888; Pilsbry, 1894), with some exceptions. Deshayes (1832, p. 237) noted a monstrous variety of *Helix aspersa* described as 'cornu-formi' without reference to Born, and subsequently (Deshayes, 1838, p. 33) cited Born's illustration, but without giving the name itself, in the synonymy of *Helix aspersa*. Beck (1838, p. 40) listed '*Cornucopia*', attributed to Born and also citing Gmelin, in the synonymy of *aspersa* (in error as '*adpersa*') as a monstrous form with separated whorls ('*monstrosa anfractibus dissolutis*'). Gray (1847, p. 171) listed '*Cornucopia*, Born' as a genus name and a synonym of '*Helix* Risso, 1826', with type species *Helix 'adpersa'*, presumably again in error for *aspersa*. Forbes & Hanley (1853, p. 45), cited Born's work in the synonymy of *aspersa*, under 'Monstrosities', but did not list the actual name. Taylor (1910, p. 268, fig. 325) listed it as 'Monst. *cornucopiae* Gmelin', under *aspersa*, but with '*Cornu copiae* Born', as the earliest entry in the synonymy. Germain (1930, pp. 182–189) made no mention of it. While this survey of the literature has not been exhaustive, Taylor's treatment may be the first to approach formal and correct synonymisation of the genus-species combination *Cornu copiae* as a synonym of *Helix aspersa* by including Born's name correctly as a genus-species combination. Nonetheless, all these various treatments of Born's names (except Gmelin), together as one word as either a genus-group synonym of *Helix* or a species-group synonym of *aspersa*, or by implication by citing Born's work, clearly intended that *Cornu copiae* Born be treated as a monstrous form and therefore a junior synonym of *aspersa*. Modern authors (see the preceding paragraph) agree with this interpretation. However, for much of the twentieth century, malacologists rarely referred to *Cornu*, with the exception of Pilsbry (1948, p. 1091), who acknowledged it as a senior

synonym of *Cryptomphalus* (as a subgenus of *Helix*) and synonymised *Cornu copiae* Born, 1778 with *Helix aspersa* Müller, 1774. Pilsbry's recognition of *Cornu* was ignored, possibly because it was buried in the 'Additions and Corrections' of his work, until Waldén (1976, pp. 24–25) again acknowledged the availability of *Cornu* and set the scene for the subsequent discussions, referred to above, that have led to the current position of the availability of *Cornu* needing to be clarified.

5. The type species of *Cantareus* Risso, 1826 (p. 64) is *Helix naticoides* Draparnaud, 1801 (p. 78), a subjective junior synonym of *Helix aperta* Born, 1778 (p. 399) (e.g. Forbes & Hanley, 1853, p. 43; Pilsbry, 1889, p. 255, Woodward, 1917, p. 220; Zilch, 1960, p. 723), by monotypy.

6. The type species of *Cryptomphalus* Charpentier, 1837 (p. 5) is *Helix aspersa* Müller, 1774 (p. 59), by subsequent designation of Pilsbry (1889, p. 235). Hence, if *Cornu* is considered available, with type species *Cornu copiae* (= *Helix aspersa*), *Cryptomphalus* is a junior subjective synonym of *Cornu*, subjective because it depends on the judgment, which is confirmed in the literature, of *copiae* and *aspersa* being synonyms (see above). In addition, with *Cornu* considered available, if *aperta* and *aspersa* are considered congeneric, then *Cantareus* (type species *Helix naticoides* (= *Helix aperta*, see above)) also becomes a junior subjective synonym of *Cornu*.

7. Held (1837, p. 910) placed *Helix aspersa* Müller, 1774 in combination with an additional genus-group name, his new name *Coenatoria* Held, 1837. The type species of *Coenatoria* is *Helix pomatia* Linnaeus, 1758, by subsequent designation of Herrmannsen (1847, p. 269), which thereby renders *Coenatoria* a junior objective synonym of *Helix* Linnaeus, 1758. Subsequently, Shileyko (2006, p. 1817) invalidly designated *aspersa* as the type species of *Coenatoria* and placed *Coenatoria* with *Cornu* in the synonymy of *Cryptomphalus*. *Coenatoria* has not been mentioned in the controversy over the correct generic placement of *aspersa*.

8. While the relationship of *aperta* and *aspersa* is a taxonomic rather than a nomenclatural issue and thus not under the jurisdiction of the Commission, the correct interpretation of Article 1.3.2 of the Code is a purely nomenclatural issue. This is the underlying issue in the present case. The correct interpretation seems to be that *Cornu copiae* Born, 1778 is available despite being based on a teratological specimen, since the description did not refer to the specimen as teratological 'as such', that is, it did not explicitly acknowledge it as an aberrant or monstrous specimen of a known species, and there is no explicit indication that it was not intended as a genuine description of a new species. Hence, *Helix aspersa* Müller, 1774, as the subjective senior synonym of the type species of *Cornu*, *Cornu copiae* Born, 1778, should be placed in combination with *Cornu*, the oldest available genus-group name, if *Helix* Linnaeus, 1758 is considered inappropriate.

9. Considering the importance of stable use of the name of this snail the Commission is requested, in accordance with Articles 78.2.3 and 80.2.1, to use its specific power to interpret the provisions of Article 1.3.2 of the Code and to rule on the availability of the name *Cornu copiae* Born, 1778.

10. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to rule that the name *copiae* Born, 1778, as published in the binomen *Cornu copiae*, is not unavailable by reason of being based on a teratological specimen, as it was not explicitly described as such, under Article 1.3.2 of the Code;

- (2) to place on the Official List of Generic Names in Zoology the name *Cornu* Born, 1778 (gender: neuter), type species by monotypy *Cornu copiae* Born, 1778, with the endorsement that it is not unavailable by reason of being based on a teratological specimen, as ruled in (1) above;
- (3) to amend the entry on the Official List of Specific Names in Zoology for the name *aspersa* Müller, 1774, as published in the binomen *Helix aspersa* to record that this is the valid name of the type species of *Cornu* Born, 1778 (a senior subjective synonym of *copiae* Born, 1778, as published in the binomen *Cornu copiae*).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).